

Application No. 10/518,435  
Reply to Office Action of December 30, 2005

IN THE DRAWINGS

The attached sheets of drawings include changes to Figs. 1, 2a, 3, and 6e. These sheets, which includes Figs. 1, 2a, 2b, 3, 6a, 6b, 6c, 6d, and 6e, replaces the original sheet including Figs. 1, 2a, 2b, 3, 6a, 6b, 6c, 6d, and 6e.

Attachment: Replacement Sheets (3)

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 8-17 are pending in the present application, Claims 1-7 having been canceled without prejudice or disclaimer. Support for new Claims 8-17 is found, for example, in the original claims. Accordingly, no new matter is added.

In the outstanding Office Action, the drawings were objected to for showing  $V_o$  while the specification recites  $V_s$ ; the drawings were objected to for not including the reference symbols  $L_3$ ,  $P_i$ ,  $T_i$ , or  $D_i$ , which are recited in the specification; the drawings were objected to because the capacitor shown in Fig. 3 was not described in the specification; the drawings were objected to because Fig. 6e does not include a description of the vertical axis; the specification was objected to for not defining the multiplier “m”; Claims 4-7 were objected to; Claims 1-7 were rejected under 35 U.S.C. §112, second paragraph; Claims 1-7 were rejected under 35 U.S.C. §101; and Claims 1-7 were rejected under 35 U.S.C. §102(b) as anticipated by Fabijanski (Series Resonant Converter with Sandwich-Type Piezoelectric Ceramic Transducers, 6<sup>th</sup> European Conference on Power Electronics and Applications, pages 591-594, 1995).

With respect to the objection to the drawings, Figs. 1, 2a, and 3 are amended to change  $V_o$  to  $V_s$ . The specification is amended to change  $L_3$  to  $L_2$ ; to change  $P_i$  to  $P_1$ ,  $P_2$ ,  $P_3$ , and  $P_4$ ; to change  $T_i$  to  $T_1$ ,  $T_2$ ,  $T_3$ , and  $T_4$ ; and to change  $D_i$  to  $D_1$ ,  $D_2$ ,  $D_3$ , and  $D_4$ . Fig. 3 is amended to label the capacitor with the symbol “C” and the specification is amended to describe capacitor C as in parallel with battery B. Fig. 6e is amended to include a description of the vertical axis. Accordingly, Applicants respectfully submit that the amendments to the drawings and specification overcome the outstanding objections to the drawings.

With respect to the objection to the specification, the specification is amended to define the multiplier “m.” Accordingly, Applicants respectfully submit that the objection to the specification is overcome.

In light of the cancellation of Claim 1-7, Applicants respectfully submit that the objections to claims 4-7 and the rejections to Claims 1-7 under 35 U.S.C. §112, second paragraph and 35 U.S.C. §101 are moot.

Applicant respectfully submits that new Claims 8-17 patentability distinguish over Fabijanski.

Fabijanski describes an electronic circuit for controlling the power supplied to an actuator by modulation of the resonant frequency as a function of measured power transmitted to the actuator. However, non-limiting embodiments of the claimed invention adjust the waveform provided to the transformer at a level of the signal drive switches by controlling the opening and closing of the signal drive switches.

Fabijanski does not disclose or suggest “a current flowing in the load is a periodic signal of a resonance frequency such that a chopping frequency of the signal is smaller than twice the resonance frequency, and the at least one drivable switch is configured to close when the current flowing in the load is zero” of new Claim 8.

Furthermore, Fabijanski does not disclose or suggest “a current flowing in the load is a periodic signal whose phase is advanced relative to the voltage across the terminals of the load, and resonance frequency of the current is such that a chopping frequency of the signal lies between half and twice the resonance frequency, the at least one drivable switch is configured to close when the current flowing in the load is zero” of new Claim 10.

Furthermore, Fabijanski does not disclose or suggest “a current flowing in the load is a periodic signal whose phase is retarded relative to the voltage across the terminals of the load, and a frequency of the current is such that chopping frequency of the signal is greater

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than half the resonance frequency, the at least one drivable switch is configured to close when the current flowing in the load is zero" of new Claim 12.

In view of the above-noted distinctions, Applicant respectfully submits that new Claims 8, 10, and 12 (and Claims 9, 11, and 13-17 dependent thereon) patentably distinguish over Fabijanski.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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